DOCUMENT RESUME

ED 241 161 PS 014 204

AUTHOR Evans, Ellis D.; Hillman, Lee
TITLE Longitudinal Follow-Up Assessment of Differential Preschool Experience for Low-Income Minority Group Children.
PUB DATE [83]
NOTE 40p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Academic Achievement; *Black Youth; Comparative Analysis; *Early Experience; Followup Studies; *High School Students; Longitudinal Studies; Low Income; Minority Group Children; *Preschool Education; Secondary Education; Sex Differences; *Student Attitudes
IDENTIFIERS *Distar; Project Head Start

ABSTRACT

Urban high school minority group students with different preschool program histories were compared with controls on measures of school achievement, school sentiment, and perceptions of the preschool experience. Preschool exit attainments were also examined in relation to followup achievement and attitude measures. A total of 64 subjects participated: 27 had experienced at least 1 year of preschool education based on an early version of the DISTAR program, 17 had attended a conventional Head Start program for 1 year prior to kindergarten entry, and 20 had no formal preschool history. A group of 33 students whose preschool history could not be easily determined was added to the main sample for a broader analysis of the relationship between school achievement and school sentiment. Subjects completed the Quality of School Life Scale and a specially designed self-report checklist for memory and sentiment about preschool. Additional measures of intelligence and of academic skills and achievement were drawn from school records. Results revealed no main long term effects for different preschool programs; followup measures did not distinguish between the total preschool sample and controls. Moderately positive correlations were revealed between several preschool exit criterion measures and later school achievement, but not attitude. Favorable student evaluations of preschool were observed, as was a general consensus about the reasons for going to preschool. (Author/RH)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED241161

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy

Longitudinal Follow-Up Assessment of Differential Preschool Experience for Low-Income Minority Group Children

Ellis D. Evans

University of Washington

and

Lee Hillman

Seattle Public Schools

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Ellis D. Evans

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Running Head: Differential Preschool Experience

PS 014204

Abstract

Urban high school minority group students with differential preschool program histories were compared to controls on measures of school achievement, school sentiment, and perceptions of the preschool experience. Preschool exit attainments were also examined in relation to the follow-up achievement and attitude measures. No main long-term effects for differential preschool programs were revealed, nor did follow-up measures distinguish between the total preschool sample and controls. Moderately positive correlations were revealed between several preschool exit criterion measures and later school achievement, but not attitude. Favorable student evaluations of preschool were observed as was a general consensus about the reasons for going to preschool.

Longitudinal Follow-up Assessment of Differential Preschool Experience for Minority ---- Children

Background and Purpose

Among the many persistent puzzles about formal educational strategy is the nature and extent of impact of early intervention and group experience on young children. This impact puzzle, encompassing issues of both immediate and longer-term outcomes, has its origin in early efforts to assess nursery school and kindergarten effects (Sears & (Dowley, 1963; Swift, 1964). But widespread and rigorous attempts to document specific outcomes in early childhood education were relatively rare until the advent of the 1960s compensatory education movement. Focal points for systematic assessment included various federally supported projects, notably Head Start and Follow Through. The federal investment in these major projects created a strong tide of evaluation research about early childhood education, the ebb and flow of which has been characterized by somewhat inconsistent and often enigmatic results (Evans, 1975; Spodek, 1982). This situation is exemplified by the familiar "wash out" pattern, wherein immediate or short-term cognitive gains, even when substantiated among children subject to early intervention, attenuate or become indistinguishable with time as compared to

control populations.

To be sure, extraordinary early intervention and follow-through efforts have produced notable exceptions to this modal wash out pattern (e.g., Schweinhart & Weikert, 1980). But, unfortunately, progress toward better understanding of early education program impact seems limited by several features of evaluation practice. For one thing, early education program evaluation research has been dominated by attempts to document immediate, summative program effects; longitudinal follow studies are still uncommon even though two decades have passed since the inception of Project Head Start. For another thing, most, if not all, of the few published long-term follow-up studies represent specially funded model demonstration programs of one kind or another (see, for example, Lazar & Darlington, 1982). As such, these projects often involve resources beyond the means of educators normally constrained by conditions of everyday school practice. Thus, it can be hazardous to generalize broadly from findings about model demonstration programs (whatever their patterns) to localized, unsponsored programs of early intervention. Accordingly, it is prudent to call for more widespread evaluation of typical field programs in longitudinal perspective. This enables steps toward a sharper definition of the cumulative outcomes for early education; noting, of course,

that the rationale for early education is not predicated solely on the value of empiricism (Evans, 1975).

Taking this view, a study was performed in 1982 to determine the long-term educational progress of low income, minority high school students who had experienced two different approaches to preschool education during 1970-71 (Evans, 1971). The major objective for this investigation was twofold: to assess any long-term comparative educational impact of differential preschool experience on these students, and to appraise possible differences in school achievement, attitude, and lingering perceptions of preschool education between students with and without a history of preschool experience. The secondary objective was also twofold: to determine the value of selected preschool exit criterion measures for predicting later educational status and query students' retrospective evaluation of their preschool education. A tertiary objective concerned the more general relationship between school achievement and school sentiment at the high school level.

Method

To achieve these objectives, 44 high school students from a group of 92 original participants in two different preschool programs 11 years earlier were located. These subjects all were low income, minority (mostly black) students still enrolled in the parent urban school district in 1982.

Of this number, 27 had experienced at least one year of a highly structured, direct instruction approach to early education based on an early version of the DISTAR program (DI) for young children (Science Research Associates, 1972). In contrast, 17 subjects had attended a conventional Head Start (HS) program for one year prior to kindergarten entry. For comparative purposes, 20 students with no formal preschool history (controls) were selected from school records on the basis of close fit (matched samples) according to age, sex, grade, school, free lunch eligibility, and ethnic minority status. In addition, a similar group of 33 students whose preschool history could not be easily determined were added to the main sample for a broader analysis of the school achievement-school sentiment relationship.

With assistance from school administrators and counselors, all subjects were contacted in their respective high schools to enlist their cooperation in the study. Appointments were arranged for each subject to complete two of the follow-up measures: the Quality of School Life Scale (Epstein & McPartland, 1978)--a 27-item standardized self-report measure of school sentiment--and a self-report checklist for memory and sentiment about preschool designed expressly for this study. These measures were administered by the senior investigator. All remaining measures were drawn from existing school records.

Measures of reading and arithmetic achievement at grades 6 and 8 were provided by the Metropolitan Achievement Test (1970) and the California Achievement Test (1978), respectively. In addition, subjects had taken a school district Minimum Competency Test at either grades 9 or 10. This test consisted of two parts, one measuring practical life reading and computational skills, the other measuring practical writing skills.

The five aforementioned dependent measures were subjected to an analysis of variance procedure (ANOVA) with type of program (or no program) and sex of subject as the principal variants. Additionally, the follow-up measures were placed in relationship (Pearson r's) to five dependent measures from the original 1970-71 study for all applicable subjects. These original study dependent measures were the Wechsler Preschool and Primary Scale of Intelligence (Short Form) (Wechsler, 1967), a language comprehension and production test (Slobin & Welsh, 1967), the Boehm Test of Basic Concepts (Form A, Booklet I) (Boehm, 1969), the Thomas Self-Concept Values Test (Thomas, 1969), and a pupil rating form focused upon children's achievement orientation self-confidence in ability, and activity level (Hess, 1966).[1] (Rating Form scores were provided by the DISTAR program children only). Scores from the measure of retrospective memory and lingering sentiment about preschool were coded in rank-order

percentage form to enable broad comparisons of the preschool history subjects with controls. Finally, the total sample, including the group of 33 subjects whose preschool history was indeterminate, was examined in terms of the overall relationship between school achievement and sentiment about school (Pearson r).

Findings

Selected descriptive data are presented first to establish certain sample characteristics relevant for an interpretation of main findings. Thus, attrition history for the two preschool groups is summarized in Table 1.

Insert Table 1 about here

It is noteworthy that the total number of follow-up study participants (N = 44) represents a 52 per cent attrition rate from point of preschool entry to time of high school follow-up. But this rate was considerably less for the DISTAR group than for the Head Start group, a frequency difference that is statistically significant (Chi Square = 4.37, $p < .05$). Regardless, a further examination of preschool WPPSI mean scores between these two surviving groups (DI and HS) revealed no signficant difference. Neither was any mean difference in WPPSI performance found between subjects who participated in the follow-up study

and those who were "lost" over the 11-year period. This provides much assurance as to the comparability of the two preschool groups for follow-up analysis.

Table 2 contains the mean raw scores on school achievement and attitude measures for cumulative follow-up study. Note here that, in most cases, the achievement test score means are not based upon the full sample size for preschool groups and the controls (N = 64). This is because not all subjects in these two preschool history groups presented a complete test file, probably due to non-attendance at school during a given testing period. Subject loss was usually 2 or 3 cases for any single achievement test score analysis. School sentiment (QSL) scores, however, were unaffected by subject loss and depict the full sample. Inspection of the data reveals that, in general, group means are similar across all outcome measures and provide no indication of a differential performance.

Insert Table 2 about here

Table 3 summarizes the principal findings about long-term comparative impact of type of preschool experience, as well as the preschool versus no preschool experience comparison. Data from the two groups with contrasting preschool experience revealed no significant differences among any of the follow-up

measures. This finding of no differences paralleled findings from the original (1971) preschool program evaluation, although many children in both programs had demonstrated substantial achievement gains during their preschool year. Moreover, results in Table 3 reveal that a comparison of pooled preschool subjects against controls, representing the more general preschool vs. no preschool analysis, failed to yield any marked significant long-term program effects associated with preschool experience.

Insert Table 3 about here

Table 3 data do, however, show that males with no preschool experience presented a significantly lower achievement pattern at grades 6 and 8 than did either their preschool counterparts or females without preschool. That is, a view of mean values in Table 2 reveals that male controls showed the lowest performance on all three of the standardized achievement measures underlying these program x sex interactions. Yet this lower performance pattern held neither for minimum competency test performance nor school attitude and requires cautious interpretation because of the small number of male students involved.

To summarize the comparative analysis, it is clear that modest preschool experience, regardless of its nature or type, as defined in this study, shows no general carryover effect for

measured school achievement and sentiment into the middle and senior high school years. However, the program-by-sex interactions analyses converge to show that where any achievement differences are observed, male subjects without preschool experience show the weakest patterns.

Moving from the comparative program analysis to the correlational data analysis, Table 4 shows that certain preschool program exit measures of the two original preschool groups are positively related to subsequent school achievement, but not school attitude. Clearly, the most consistently strong statistical relationships were derived from the Wechsler Preschool and Primary Scale of Intelligence (Short Form) and reading achievement at grades 6 and 8.

Insert Table 4 about here

Other consistent, but somewhat less strong, relationships are shown between preschool criteria and later school achievement, notably those linking language and self-concept measures to eighth grade reading and mathematics achievement. Teacher's ratings of children in the direct instruction preschool failed to correlate meaningfully with later achievement criteria.

Data from the preschool memory and sentiment checklist are portrayed in Tables 5, 6, and 7. These data indicate that

students with preschool experience hold mostly favorable memories about their experience and believe that such experience has been helpful to them for later school tasks. These students also indicated a somewhat stronger inclination than controls to send their children to preschool should the occasion arise. Regardless of preschool background, students agreed that the two most important reasons for preschool are to learn rules for school and schoolwork earlier and to get along with other children better. Agreement also occurred about the least important reasons for going to preschool. Subjects generally discounted the reasons that parents need time away from their children and that preschool is a good place to play.

Insert Tables 5, 6, and 7 about here

Table 8 introduces further correlational evidence to underscore a weak school attitude-school achievement relationship among the entire sample of minority group subjects. Some correlations reached statistical significance with the highest absolute values shown for (a) grade 8 mathematics achievement and school satisfaction, and (b) minimum competence achievement (writing skills) and work commitment. But on the whole, these relationships do not form a meaningful pattern for predictive purposes. More impressively, the mean positive school sentiment

score for this local total sample of students (16.21, N = 90) was substantially higher than that reported for the equivalent standardization populations (11.22, N = 748) (Epstein & McPartland, 1978).

Insert Table 8 about here

Finally, Tables 9 and 10 summarize the overall achievement pattern of this undifferentiated group of low income, minority group students. Test data consistently indicate that mean achievement scores fall below the national median for both standardized measures. Moreover, approximately one in three students successfully met the standard for passing on the school district's own minimum competency tests (which, incidentally, have since been discontinued in favor of revised measurements). The overall achievement pattern of this sample, however, stands in contrast to the total school-district achievement picture, which traditionally has students scoring at or above the national median on standardized achievement measures.

Insert Tables 9 and 10 about here

To summarize the descriptive analysis section of this study, it is clear that selected preschool program exit measures are moderately strong predictors of subsequent school achievement,

but not sentiment. In retrospect, subjects with preschool backgrounds provide strong endorsement to the values and enjoyment of preschool and generally agree about the salient reasons for attending preschool. A low, but statistically significant learning-liking relationship is reflected in measures of school achievement and attitude with the total sample expressing moderately positive sentiments about their present school experience, a pattern not linked specifically to preschool experience or its lack. Sentiments notwithstanding, the overall school achievement pattern of these students is comparatively low in terms of national percentile rankings on standardized measures of achievement.

Discussion

All things considered, the data from this study tell a somewhat predictable, yet also perplexing and provocative story. A lack of mean preschool effects and the presence of a generally low achievement pattern for this group of students are not unpredictable findings, given the well known limitations of modal educational experience for most low-income minority group populations. No difference findings seem especially likely in the absence of powerful and sustained follow-through procedures. Even then there is little reason to expect cumulative advantages from preschool education in the absence of sustained and family

contribution to the schooling effort (Bronfenbrenner, 1979). Although a few subjects in this study entered special academically oriented kindergarten-primary programs, the great majority proceeded through conventional elementary school classrooms with no institutional system of parental involvement.

An additional qualification merits explanation at this point. It was not possible in this study to marshall evidence about student attendance rates beyond the preschool experience. Nor were primary grade achievement data available for these (or any other) subjects due to loss incurred when the district changed data storage and management systems several years ago. This prevented any shorter-term follow-up analysis, especially to examine the important predictive value of preschool and early school assessments in relation to primary-grade achievement shown strongly by other recent studies (e.g., Perry, Guidubaldi, & Kehle, 1979). These lacks impede analysis of the no difference pattern. And particularly crucial is the attendance issue. A foremost contribution of preschool intervention is to establish a pattern of regular school attendance. No educational program, however sophisticated, can succeed if learners do not actively and consistently participate. It is possible that preschool education often fails on this criterion. If so, longer-term achievement lacks are hardly surprising. But if regular

attendance is secured and achievement lacks are still observed, the nature of the problem changes considerably. From conferences with school personnel involved in the present study, it was impressed upon the investigator that tardiness and erratic school attendance characterize the low-income minority group population to a considerably greater extent than other segments of the school population. If true, the reasons and consequences of this pattern deserve careful scrutiny with attention to buffering against poor attendance in the early years of schooling. To focus upon attendance patterns, of course, calls up a set of assumptions about the relationship of academic learning time and measured achievement (Borg, 1980; Karweit & Slavin, 1982). These assumptions remain to be tested, both extensively and intensively in relationship to cumulative follow-up evaluation research about early education. At issue, methodologically, is the technique of process evaluation so often difficult to practice in real-world classrooms.

Beyond the pervasive finding of no differences, four salient points emerge from the present study. First, recall that the male subjects without a history of preschool represent the lowest-performing subgroup in the sample. Sex difference associated with early schooling has been observed by other researchers in the field, but the data are inconsistent and defy

comfortable explanation. Like the present follow-up study, Miller and Bizzell (1983) report longer-term preschool advantages for males. This provokes thought about the male vulnerability hypothesis, i.e, the notion that one way or another males may be more subject to environmental variations affecting development than are females. If so, early intervention may be more critical for young male children, especially if intervention byproducts include positive alteration in the parental-child relationships (see, for example, Scheinfeld, 1983). In contrast, sex differences favoring females are reported from the Early Training Project (Gray, Ramsey, & Klaus, 1982) and the Consortium for Longitudinal Studies (Lazar & Darlington, 1982) revealed no reliable sex differences associated with early intervention. Given this mixed pattern of findings, the conditions under which preschool experience may be more significant for the overall longer-term educational development of males than for females beg for rigorous inquiry.

Second, the predictive power of certain preschool outcome measures vis-a-vis later academic achievement criteria is quite strong in view of the time span involved. This finding reinforces the notion of early screening for children "at risk" for normal educational development and, consequently, careful attention to special early programming based upon comprehensive

assessment (Barnes, 1982). From the present study, measures with an integral language component seem most relevant to include the self-concept measure. As others have noted (e.g., Bridgman & Shipman, 1978) it is likely that self-concept measurement contributes to predictive variation largely as a function of task understanding and attentiveness. It is perhaps superfluous to note that careful reliability and validity studies are essential within any given specific educational context to establish an ethical and constructive early identification-based intervention program.

Third, in contrast to widespread doomsaying in society about student negativism about schooling, there is no evidence from this study that low-income minority students show starkly negative attitudes toward their schools and teachers. In fact, the overall pattern is toward the positive end of the scale, a pattern reinforced by the written comments of many students about the importance of education for enhancing life circumstances. This generally positive stance was also reflected in a nearly unanimous finding about subjects' endorsement of preschool education for their own children. Perhaps this indicates an important aspect of a support cycle for education among minority group youth. That is, as positive sentiment about early education builds from personal experience, youth may identify

more strongly with formal education, thereby becoming more active participants as citizens and parents of their own children than would otherwise occur. Even so, a reconciliation of these subjects' comparatively positive attitude toward school, on the one hand, with suspicions about erratic school attendance, on the other, remains for additional study.

The school sentiment-achievement relationship also merits further explanation. As in the original normative studies and later research about the Quality of Life Scale (Epstein, 1981; Epstein & McPartland, 1978), the attitude-achievement relationship was quite low. But since the attitude measure was correlated with past achievement (measures that extended back several years) it is most accurate to suggest that grade 6 and grade 8 standardized achievement measures are, at best, nominally useful for predicting later school sentiment. Taking into account validity data from the original QSL normative studies and the comparatively high QSL scores from the present study, two points emerge. First, student sentiment is probably influenced more by unfavorable learning conditions than unfavorable learning outcomes (Epstein, 1981). It is tempting, therefore, to suggest that QSL scores from this study provide an index of generally favorable learning conditions for a majority of the sample. Second, it is quite likely that a more appropriate test of the

sentiment-achievement relationship will involve achievement measures more closely associated in time and actual day-to-day academic functioning. Thus, concurrent measures of school sentiment and classroom achievement are indicated.

Finally, it is intriguing to ponder the reasons why, as compared to Head Start subjects, a significantly larger proportion of students from the Direct Instruction preschool are still enrolled in the parent school district after 11 years. Except for a possible early difference in parental concern for structured academics, the subjects of the original study were nearly identical in all educationally important respects. Perhaps early parent involvement in the establishment and maintenance of the direct instruction preschool option in the district facilitated a bonding with local schooling. This, in turn, may have contributed to greater stability through the years as reflected in differential student attrition rates. However speculative the reasons for this attrition difference, the difference is remarkable and warrants replication in other settings.

To conclude, few (if any) serious students of early education expect that a year or two of preschool, however well accommodated, will solve the educational problems usually associated with the low income minority experience. Certain

nationally visible model demonstration programs have claimed cumulative positive benefits from early intervention, mostly to involve modest long-term achievement advantages (Royce, Lazar, & Darlington, 1983). The present study, perhaps more typical of field projects in the public sector, cannot. To paraphrase one scholar (Ramey, 1982), early childhood education for educationally disadvantaged children often can work in desired directions, but it often may not. If extrapolations from the more successful programs are applicable here, strong attention must be given to the authentication of several essential conditions for appropriate tests of intervention theory. Among these are competent implementation of program variables that are reliably associated with valid school achievement measures, continuity of programs from preschool through the primary and intermediate school years, successful incentives to strengthen patterns of school attendance (thereby increasing the potential for engaged time on task), and coordinated, mutually reinforcing home-school support systems (Becker & Gersten, 1982, Gotts, 1980; Spodek, 1982; Zigler & Borman, 1983).

(91)F

References

Barnes, K. E. (1982). Preschool screening: The measurement and prediction of children at risk. Springfield, IL: Charles C. Thomas.

Becker, W. C., & Gersten, R. (1982). A follow-up of Follow-Through: The later effects of the direct interaction model on children in fifth and sixth grades. American Educational Research Journal, 19(1), 75-92.

Boehm, A. E. (1969). Boehm Test of Basic Concepts. New York: The Psychological Corporation.

Borg, W. R. (1980). Time and school learning. In C. Denkam & A. Lieberman (Eds.), Time to learn (pp. 33-73). Washington D.C.: U.S. Department of Education, National Institute of Education.

Bridgeman, B., & Shipman, V.C. (1978). Preschool measures of self-esteem and achievement motivation as predictors of third-grade achievement. Journal of Educational Psychology, 70(1), 17-28.

Bronfenbrenner, U. (1979). The ecology of human development. Cambridge, MA: Harvard University Press.

California Achievement Test (1978). (Level 18, Form C, Reading and Mathematics, Grade 8.) New York: CTB/McGraw-Hill.

Epstein, J. L. (Ed.) (1981). The quality of school life. Lexington, MA: D. C. Heath.

Epstein, J. L., & McPartland, J. (1978). QSL: The Quality of Life Scale. Boston: Houghton Mifflin.

Evans, E. D. (June 10, 1971). Assessment of the Satellite Preschool Program: A progress report to the Seattle Public School District. Seattle: University of Washington, Department of Educational Psychology.

Evans, E. D. (1975). Contemporary influences in early childhood education (2nd ed.). New York: Holt, Rinehart and Winston.

Gotts, E. E. (1980, February-March). Long-term effects of a home-oriented preschool program. Childhood Education, pp. 228-234.

Gray, S. W., Ramsey, B. K., & Klaus, R. (1982). From 3 to 20: The Early Training Project. Baltimore: University Park Press.

Hess, R. D. (1966). Techniques for assessing cognitive and social abilities of children and parents in Project Head Start. (ERIC Document Reproduction Service No. ED 015 772.)

Karweit, N. & Slavin, R. E. (1982). Time-on-task: Issues of timing, sampling, and definition. Joural of Educational Psychology, 74(6), 884-851.

Lazar, I., & Darlington, R. (1982). Lasting effects of early education: A report from the Consortium for Longitudinal Studies. Monographs of the Society for Research in Child Development, 47(2-3), Serial No. 195.

Metropolitan Achievement Test. (1970). (Intermediate Battery, Form F, Reading and Mathematics, Grade 6.) New York: The Psychological Corporation.

Miller, L. B., & Bizzell, R. P. (1983). Long-term effects of four preschool programs: Sixth, seventh, and eighth grades. Child Development, 54(3), 727-741.

Perry, J. D., Guidubaldi, J., & Kehle, T. J. (1979). Kindergarten competencies as predictors of third-grade classroom behavior and achievement. Journal of Educational Psychology, 71(4), 443-450.

Ramey, C. T. (1982). Commentary. Monographs of the Society for Research in Child Development, 47(2-3), Serial No. 195, 142-151.

Royce, J. M., Lazar, I., & Darlington, R. B. (1983). Minority families, early education, and later life chances. American Journal of Orthopsychiatry, 53(4), 706-720.

Science Research Associates, Inc. (1972). DISTAR. Chicago: Science Research Associates.

Sears, P., & Dowley, E. (1963). Research on teaching in the nursery school. In N Gage (Ed.), Handbook of research on teaching (pp. 814-864). Skokie, IL: Rand McNally.

Schweinhart, L. J., & Weikart, D. P. (1980). Young children grow up: The effects of the Perry Preschool Program on youths through age 15. Ysilanti, MI: The High/Scope Press.

Slobin, D. J., & Welsh, C. A. (1967). Elicited imitation on a research tool in developmental psycholinguistics. Berkeley: University of California, Department of Psychology.

Spodek, B. (1982). Handbook of research in early childhood education. New York The Free Press.

Swift, J. (1964). Effects of early group experience: The nursery school and day nursery. In M. Hoffman & L. Hoffman (Eds.), Review of child development research (Vol. 1) (pp. 249-288). New York: Russell Sage.

Thomas Self-Concept Values Test. (1969). Grand Rapids, MI: Educational Service Company.

Wechsler, D. (1967). Manual for the Wechsler Preschool and Primary Scale of Intelligence. New York: The Psychological Corporation.

Zigler, E., & Berman, W. (1983). Discerning the future of early childhood intervention. American Psychologist, 38(8), 894-905.

Zigler, E., & Valentine, J. (Eds.). (1979). Project Head Start. New York: The Free Press.

Footnotes

[1]It should be noted here that the original study, a two-program comparison, revealed non-significant program differences on intellectual-achievement and social acceptance measurs during 1970-71. However, both groups made significant gains during the academic year. Where trends occurred, they were in favor of the Direct Instruction group. Selected sex differences favoring females a so appeared in the original study for self-concept growth (Evans, 1971).

Table 1

Descriptive Summary of Attrition History for Students who Began Preschool in 1970 and Later Participated in a 1982 Follow-Up Study

	Original preschool program subjects (N's)		
	Direct Instruction	Head Start	Total
Preschool entry measures (fall, 1970)	45	47	92
Preschool exit measures (spring, 1971)	36	33	69
Available for follow-up study (spring, 1982)	29	19	48
Complete preschool exit measures for follow-up subjects	22	17	39
Follow-up data only[a]	5	0	5
Unable to participate in follow-up study[b]	2	2	4

Continued ....

Table 1 (Continued)

Original preschool subjects who participated in follow-up study[c]	27	17	44

[a]Subjects who entered and completed preschool, but did not provide exit measures. [b]Three subjects were suspended or disengaged from school during the course of follow-up study; a fourth (HS subject) was unable to respond due to mental incapacity. [c]This difference (N = 10) is statistically significant (Chi Square = 4.37, $p < .05$).

ble 2

an Raw Scores on School Achievement and Attitude Measures for

llow-Up Study of Preschool Experience

ogram Group	Grade 6 Achievement (MAT) Reading	Grade 6 Achievement (MAT) Mathematics	Grade 8 Achievement (CAT) Reading	Grade 8 Achievement (CAT) Mathematics	Minimum Competency Tests[a] I	Minimum Competency Tests[a] II	School Sentiment (QSL)[b]
rect Instruction (N = 27)							
Male	57.50	60.84	35.61	47.53	45.33	38.45	16.12
Female	54.88	55.70	29.11	37.70	42.75	39.00	15.18
Total	56.38	58.61	32.95	43.26	44.43	38.66	15.74
ad Start (N = 17)							
Male	49.20	57.00	26.00	45.33	50.20	37.60	16.71
Female	46.00	58.11	32.00	45.71	42.00	40.00	14.80
Total	47.14	57.71	29.42	45.53	45.72	38.90	15.58

Continued .....

able 2 (Continued)

ontrols							
(N = 20)							
Male	40.85	36.62	26.60	29.25	32.80	31.25	18.62
Female	60.30	66.10	36.67	48.85	48377.60	18.41	
Total	52.28	52.99	33.52	43.63	42.80	35.78	18.50

[a]Cut off scores for passing the two MC tests were 54 (67 possible) and 0 (48 possible), respectively. [b]Total Scale Scores; Sub-scale scores re not presented.

Table 3

Summary of Significant Findings from Principal Dependent Measures of High School Students With and Without Preschool Experience (ANOVA)[a]

	Significant F-Values		
	Program	Sex	Program x Sex
Metropolitan Achievement Test: Grade 6			
Reading	--	--	4.42 ($p<.04$)
Mathematics	--	--	4.67 ($p<.03$)
California Achievement Test: Grade 8			
Reading	--	--	--
Mathematics	--	--	6.12 ($p<.02$)
Minimum Competency Achievement: Grade 9 or 10	--	--	--
Quality of School Life: Spring, 1982	--	--	--

[a] Inspection of the $\bar{X}$ values in Table 2 reveals that male controls consistently showed the lowest performance on all three of the achievement measures underlying these program-sex interactions.

Table 4

Statistically significant Relationships Between Various Preschool Exit Measures and Longitudinal Follow-Up Measures for Low-Income, Minority Group High School Students[a]

	Follow-up measure					
Preschool Measure (1971)	MAT: Grade 6 Reading	MAT: Grade 6 Mathematics	CAT: Grade 8 Reading	CAT: Grade 8 Mathematics	Minimum Competency I: Grade 9 or 10	QSL (1982)
WPPSI	.54	.35	.60	.48		
Slobin-Welsh Language	.30		.40	.33		
Boehm Basic Concepts					.30	
Thomas Self-Concept Values			.43	.31		
Pupil Rating Form						

[a]All figures represent Pearson product-moment correlations and are significantly different from 0 ($p < .05$ and beyond). N's range from 29-32 of the total combined preschool groups available for follow-up (N = 44).

Table 5

Rankings of Sentiment Toward Earlier Preschool Experience by Low Income, Minority Group High School Students in a Longitudinal Follow-up Study

Question (From checklist)	Response	N	(%) (rounded)
How well did you like your preschool?	Liked it a lot	26	(62)
	Liked it okay	13	(31)
	Didn't like it much	0	(00)
	Didn't like it at all	0	(00)
	Don't remember how I liked it	3	(07)
	Total	42	100
How do you think preschool helped you to learn and get along in regular school, like kindergarten and elementary school?	Helped me a lot	21	(62)
	Helped me some	13	(31)
	Didn't help much	0	(00)
	Didn't help at all	0	(00)
	Really can't say	3	(07)

Table 6

Rank Order and Percentage Values of Most Important Reasons for Children to go to Preschool by a Group of Low-Income, Minority Group High School Students in a Longitudinal Follow-Up Study

	Background			
	Preschool (N=42)		No Preschool (N=20)	
Reason	N	(%)	N	(%)
Children can learn to get along with other children	14	(33)	7	(35)
Children need to learn rules for school and schoolwork earlier	12	(29)	6	(30)
Preschool can help children to be more self-confident	10	(24)	6	(30)
Preschool is important to become stronger in reading and arithmetic	4	(09)	1	(05)
Preschool makes children more intelligent	2	(05)	0	
Parents need time away from their children	0		0	

Table 7

Sentiment About Sending a Child of One's Own to Preschool Among Low Income, Minority Group High School Students With and Without Preschool Experience

	Background			
	Preschool (N=42)		No Preschool (N=20)	
Reason	N	(%)	N	(%)
Yes, I definitely would	31	(74)	12	(60)
Maybe I would	6	(14)	5	(25)
Probably not	0		0	
No, definitely not	0		1	(05)
Really can't say	5	(12)	2	(10)

Table 8

Significant Correlations Among School Achievement Measures and the Quality of School Life Scale (QSL) for a Sample of Low Income, Minority Group High School Students (N = 69 to 77)[a]

	Achievement Measure[b]					
	MAT		CAT		Minimum Competency	
QSL scale	Reading	Mathematics	Reading	Mathematics	I	II
Satisfaction with School	.21	.21	--	--	--	--
Commitment to Classwork	--	--	--	--	.21	.26
Reaction to Teachers	--	.25	--	--	--	--
Total Scale	--	.25	--	--	.19	.19

continued ...

Table 8 (Continued)

[a]This range includes the original preschool study subjects, control subjects (no preschool), and an additional group of similar students whose preschool history was undetermined. The range varies according to the data on file in the school records for each subject. [b]The MAT, CAT, and Minimum Competency measures are from grades 6, 8, and 9 or 10, respectively. All correlations are the Pearson product moment type; only those correlations significantly different from 0 are presented.

Table 9

Mean Standardized School Achievement Scores for Minority Group, Low Income Status Students in the Seattle District Public Schools[a]

	(N)	($\bar{X}$)	S.D.	$\bar{X}$ Corresponding Percentile Rank	S.D.
Metropolitan Achievement Test: Grade 6					
Reading	(79)	53.94	15.53	36.75	24.74
Mathematics	(82)	58.92	20.18	33.50	26.36
California Achievement Test: Grade 8					
Reading	(78)	33.48	13.06	37.87	24.38
Mathematics	(74)	46.02	17.04	46.77	24.68

[a]Percentile rankings are based upon the national standardization group for each measure.

Table 10

Minimum Competency Test Performance at Grades 9 or 10 of Minority Group, Low-Income Status Students in the Seattle District Public Schools[a]

	(N)	$\bar{X}$	S.D.	No. Pass	No. Fail	% Pass
Minimum Competency I:						
Reading & Computation	(77)	46.53	12.43	29	48	37%
Minimum Competency II:						
Writing	(69)	37.39	5.47	21	48	30%

[a]Minimum cutoff scores for I and II were 54 and 40, respectively.